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ABSTRACT

Noting that many preservice teachers enter required courses believing that the course is something to endure or overcome for certification, a study examined whether a reading methods course would convince students to view teaching the reading process as a vital and necessary function of content area teachers. Six classes of students (three sections of a reading methods course during two semesters) at Western Michigan University were pre- and posttested using the Vaughan "Scale to Measure Attitude toward Teaching Reading in Content Classrooms." Results indicated that participation in the class produced significant changes in students' opinions. At the end of the course, students felt (1) obliged to improve their students' reading ability, (2) that teachers should be required to take a reading course, (3) that English teachers are not the only ones who should teach reading, (4) that they should help their students read at the interpretive level, and (5) that they should know the theoretical processes of reading. At the start of the course, participants were of the firm opinion that reading instruction in secondary school is not a waste of time and remained convinced at the end of the course. (Tables of data for each of the groups and for all six groups combined are included, as well as a bibliography.) (HTH)

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SECONDARY READING:

CAN A READING METHODS COURSE CHANGE STUDENT ATTITUDE ABOUT THE NEED FOR TEACHING READING SKILLS?

Bruce A. Lloyd

Reading is a developmental process and the various skills required for a person to be a good reader must be learned and refined throughout one's lifetime. Mastery of the process usually cannot be achieved at a preselected age. Instead, the reader should continue to grow in reading proficiency at all grade levels and beyond (Roe, et.al., 1987; Vacca, 1981).

Reading instruction is needed in high schools but many secondary teachers resist or are unaware of this (Ratekin, et.al., 1985). They erroneously assume that their students have mastered the higher level reading skills and are able to apply them in learning the subject being taught. Unfortunately, this is not always true and teaching students to read at the higher cognitive levels is imperative (Greenlaw and Moore, 1982; Lehr, 1981).

Knowledgeable educators recognize that reading problems exist not only in the elementary schools, but also at the secondary level of education. Moreover, they realize that attempts to improve high school reading are underway and those efforts should begin with preservice educators. That is to say, undergraduate students who are preparing to become secondary teachers should be the starting point of the thrust to help high school students become better readers (Lloyd and Opria, 1986).

To improve reading performance, most states require that preservice teachers take at least one reading methods course for certification (Roe, Stoodt, Burns, 1987). However, it is one thing to mandate a reading

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methods course (or courses) for all preservice teachers. It is quite a different matter to have students participate in a reading methods course that is valuable for them and actually succeeds in changing their opinions about the need for teaching reading skills.

Far too many preservice educators enter into required courses with the attitude that the course is something to endure, to pass through, and/or to hurdle on their way toward certification (Welle, 1981). Can such negative attitudes be changed? Or, more precisely, can our reading methods course have significant impact on changing student attitude about secondary reading so that teaching the reading process is viewed as a vital and necessary function of the subject matter teacher? This was the focal point of the present study, supported by a grant from the College of Education at Western Michigan University.

There is evidence to indicate that properly planned reading methods courses for inservice educators can change their attitude towards the need for teaching reading skills at the secondary level. O'Rourke (1980) discovered that those teachers who took a reading methods course had significantly higher or more positive opinions about the need for teaching students appropriate reading skills than did their colleagues who had no reading courses. He also concluded that English teachers are most likely to teach reading skills, but teachers of other subjects are not.

Stieglitz (1983) conducted a four year study to discover if subject matter specialists found a content area reading course valuable and to also find out if those teachers had significantly different attitudes and practices from those who had no course. He concluded that teachers can benefit from a reading course, but that positive attitudes do not always result in high use of these instructional practices.

Patberg and others (1984) measured the value of reading inservice programs on teachers' planning and classroom performance. They concluded that attitudes toward reading seemed to be more positive, but that merely being aware of reading strategies did not guarantee classroom use of those strategies.

Review of Related Literature. The studies cited above are about inservice education, but our concern here is with preservice teachers. The literature in this area is meager, yet there is some evidence to indicate that undergraduate reading methods courses can change students' attitude toward reading. In her three year study about the value of secondary reading methods courses, Welle (1981) used the Vaughan Scale (1977) and compared pre course/post course student responses. At the conclusion of each sixteen week course, her students indicated a positive view about the need for teaching reading skills.

Christiansen (1986) developed a questionnaire designed to discover how his students felt about taking a required reading course. Preservice teachers filled out the survey at the end of the course so there was no pretest/post test design to determine changes in student attitude. This was merely a sampling of student opinion about (1) the need for the course, (2) how well prepared they were to teach reading skills to their students, and (3) which reading skills were most important to teach.

Christiansen concluded that most of his students were in favor of the reading course requirement. Prospective English teachers, and those in foreign languages, mathematics, and science were most supportive. Preservice social studies teachers were less supportive. His students felt that they were well prepared to teach reading skills to their stu-

dents. Moreover, the most important reading skills to teach were vocabulary, drawing conclusions/inferences, using context clues, flexibility of reading speed, finding main ideas, understanding symbols and implied meanings, note making, and following directions. These findings support those of Lloyd (1986), Patberg, et.al. (1984), and Stieglitz (1983).

From the meager information available on the value of preservice reading methods courses for secondary teachers, it would seem that such courses are valuable as noted. Undergraduate students' attitudes toward the need for teaching reading skills can change and become more positive. The problem of the present study was to discover if our students' opinions would also change. That is to say, will our undergraduate secondary students change their opinions about the need for teaching reading skills to their students?

Design of the Study. This was an on-campus research effort sponsored by a mini grant from the College of Education, Western Michigan University. The study was limited to preservice students enrolled in an undergraduate secondary reading methods course. The time spanned one academic year (fall and winter semesters) and involved three class sections during each term. All classes were taught by one instructor.

In the fall semester on the first day of class each student responded anonymously to the Vaughan Scale (as amended). This was the "pretest." On the last day of class the process was repeated as the "post test."

Surveys were collected, coded, and subsequently processed. Means, standard deviations, and significance of the differences between means (pretest/post test) were calculated.

The process was repeated in the winter semester. To avoid confusion in data processing and reporting, each participating group was assigned a letter designation. In the fall, the Monday/Wednesday section was designated as Group A; the Tuesday/Thursday section was labeled Group B; and the Tuesday evening section was Group C. For the winter the Monday/Wednesday section was Group D; Tuesday/Thursday, Group E; and Tuesday evening, Group F.

Data from the Leikert type scale were treated separately for each class. Then the three fall classes were treated together (Table IV) as were the winter classes (Table VIII). Finally, data for all groups were averaged and appear in Table IX.

Findings. Table I contains responses for students in Group A. An examination of this table reveals that the course succeeded in making significant changes in opinions regarding: teacher obligation to help students improve their reading ability, preteaching technical vocabulary, the requirement of a reading course for certification, teachers should help students set purposes for reading, and teaching students to read in their special content area.

Table II contains responses for students in Group B. This class made significant changes in opinions regarding: teacher obligation to help students improve their reading ability, preteaching technical vocabulary, teaching reading skills as well as content and not leave the teaching of reading skills to the reading teacher, help students set purposes for reading, and teaching students to read in their special content areas.

TABLE I

PRE TEST/POST TEST MEANS, t VALUES, AND SIGNIFICANCE OF DIFFERENCES BETWEEN MEANS FOR GROUP A PRE SERVICE TEACHERS OPINIONS ABOUT THE NEED FOR TEACHING READING SKILLS TO HIGH SCHOOL STUDENTS AS MEASURED BY THE VAUGHAN SCALE

STATEMENT (Adapted from the Vaughan Scale)[1]	MEANS pre N= 29	MEANS post N= 29	t value	Significance of Difference
1. A content area teacher is obliged to help students improve their reading ability.	8.14	9.17	2.65	.011*
2. Technical vocabulary should be introduced to students in content classes before they meet those terms in a reading passage.	7.72	9.62	4.07	.000**
3. The primary responsibility of a content teacher should be to impart subject matter knowledge.	7.14	7.17	0.05	.96
4. Few students can learn all they need to know about how to read in six years of schooling.	5.21	6.69	1.74	.088
5. The sole responsibility for teaching students how to study should lie with reading teachers.	2.24	1.90	0.55	.58
6. Knowing how to teach reading in content areas should be required for secondary teaching certification.	6.97	8.86	3.78	.000**
7. Only English teachers should be responsible for teaching reading in secondary schools.	2.10	1.00	2.02	.049*
8. A teacher who wants to improve students' interest in reading should show them that he or she likes to read.	7.21	8.03	1.25	.22
9. Content teachers should teach content and leave reading instruction to reading teachers.	2.28	1.55	1.19	.24
10. A content area teacher should be responsible for helping students think on an interpretive level as well as a literal level when they read.	8.34	9.17	2.16	.035*
11. Content area teachers should feel a greater responsibility to the content they teach than to any reading instruction they may be able to provide.	5.45	5.76	0.47	.64
12. Content area teachers should help students learn to set purposes for reading.	7.66	9.00	2.72	.009**
13. Every content area teacher should teach students how to read material in his or her content specialty.	7.62	9.31	3.92	.000**
14. Reading instruction in secondary schools is a waste of time.	0.52	0.62	0.30	.76
15. Content area teachers should be familiar with theoretical concepts of the reading process.	8.21	8.83	1.48	.14

* significant @ p .05
** significant @ p .01

[1]Joseph L. Vaughan, "A Scale to Measure Attitude Toward Teaching Reading in Content Classrooms." Journal of Reading, 20:605-609, April, 1977.

TABLE II

PRE TEST/POST TEST MEANS, t VALUES, AND SIGNIFICANCE OF DIFFERENCES BETWEEN MEANS FOR GROUP B PRE SERVICE TEACHERS OPINIONS ABOUT THE NEED FOR TEACHING READING SKILLS TO HIGH SCHOOL STUDENTS AS MEASURED BY THE VAUGHAN SCALE

STATEMENT (Adapted from the Vaughan Scale)[1]	MEANS pre N=27	MEANS post N=23	t value	Significance of Difference
1. A content area teacher is obliged to help students improve their reading ability.	7.33	9.04	4.26	.000**
2. Technical vocabulary should be introduced to students in content classes before they meet those terms in a reading passage.	7.52	9.39	4.35	.000**
3. The primary responsibility of a content teacher should be to impart subject matter knowledge.	6.56	6.70	0.21	.83
4. Few students can learn all they need to know about how to read in six years of schooling.	6.59	7.39	0.84	.41
5. The sole responsibility for teaching students how to study should lie with reading teachers.	2.00	1.43	0.88	.38
6. Knowing how to teach reading in content areas should be required for secondary teaching certification.	7.48	8.48	1.91	.06
7. Only English teachers should be responsible for teaching reading in secondary schools.	2.85	2.09	0.98	.33
8. A teacher who wants to improve students' interest in reading should show them that he or she likes to read.	8.04	8.48	0.85	.40
9. Content teachers should teach content and leave reading instruction to reading teachers.	3.00	1.17	3.04	.004**
10. A content area teacher should be responsible for helping students think on an interpretive level as well as a literal level when they read.	8.41	8.57	0.36	.72
11. Content area teachers should feel a greater responsibility to the content they teach than to any reading instruction they may be able to provide.	5.19	5.22	0.04	.97
12. Content area teachers should help students learn to set purposes for reading.	7.33	8.52	2.88	.005**
13. Every content area teacher should teach students how to read material in his or her content specialty.	7.11	9.22	4.47	.000**
14. Reading instruction in secondary schools is a waste of time.	0.56	0.478	0.30	.77
15. Content area teachers should be familiar with theoretical concepts of the reading process.	7.93	8.30	0.71	.48

* significant @ p .05
** significant @ p .01

[1]Joseph L. Vaughan, "A Scale to Measure Attitude Toward Teaching Reading in Content Classrooms." Journal of Reading, 20:605-609, April, 1977.

TABLE III

PRE TEST/POST TEST MEANS, t VALUES, AND SIGNIFICANCE OF DIFFERENCES BETWEEN MEANS FOR GROUP C PRE SERVICE TEACHERS OPINIONS ABOUT THE NEED FOR TEACHING READING SKILLS TO HIGH SCHOOL STUDENTS AS MEASURED BY THE VAUGHAN SCALE

STATEMENT (Adapted from the Vaughan Scale)[1]	MEANS pre N= 34	MEANS post N= 29	t value	Significance of Difference
1. A content area teacher is obliged to help students improve their reading ability.	7.59	8.69	2.49	.016*
2. Technical vocabulary should be introduced to students in content classes before they meet those terms in a reading passage.	7.21	9.655	6.07	.000**
3. The primary responsibility of a content teacher should be to impart subject matter knowledge.	6.59	7.79	1.88	.066
4. Few students can learn all they need to know about how to read in six years of schooling.	5.74	7.34	1.86	.068
5. The sole responsibility for teaching students how to study should lie with reading teachers.	2.65	1.03	2.74	.0083*
6. Knowing how to teach reading in content areas should be required for secondary teaching certification.	6.65	8.24	3.01	.0039*
7. Only English teachers should be responsible for teaching reading in secondary schools.	2.68	1.10	2.65	.011*
8. A teacher who wants to improve students' interest in reading should show them that he or she likes to read.	6.79	8.38	2.48	.016*
9. Content teachers should teach content and leave reading instruction to reading teachers.	3.09	1.00	3.69	.000**
10. A content area teacher should be responsible for helping students think on an interpretive level as well as a literal level when they read.	8.03	9.31	3.71	.000**
11. Content area teachers should feel a greater responsibility to the content they teach than to any reading instruction they may be able to provide.	6.00	4.72	1.57	.12
12. Content area teachers should help students learn to set purposes for reading.	6.91	9.00	5.46	.000**
13. Every content area teacher should teach students how to read material in his or her content specialty.	7.12	9.62	5.78	.000**
14. Reading instruction in secondary schools is a waste of time.	0.82	0.35	1.58	.12
15. Content area teachers should be familiar with theoretical concepts of the reading process.	7.53	8.17	1.10	.27

* significant @ p .05
** significant @ p .01

[1]Joseph L. Vaughan, "A Scale to Measure Attitude Toward Teaching Reading in Content Classrooms." Journal of Reading, 20:605-609, April, 1977.

Table III contains responses for students in Group C. For this class, the course succeeded in making significant changes in opinions about preteaching technical vocabulary, teaching reading skills as well as content and not leave the teaching of reading skills to the reading teacher, helping students think at an interpretive level, helping students set purposes for reading, and teach students how to read the material in the content area.

Table IV contains data about the combined responses for the three classes taught during the fall semester. Ninety students submitted pretest information and 81 students responded to the post test. The scale used in evaluating responses ranged from a high of 10 (strong agreement) to a low of 0 (strong disagreement). A score of five indicated no opinion.

An examination of Table IV reveals valuable information about student opinion upon entry into the course and then exiting from it. Initially students were in mild agreement that content teachers are obliged to help students improve reading ability and at the end of the course their opinions were significantly stronger in this regard.

They were in mild agreement on the preteaching of technical vocabulary at the beginning of the course and by the end of the course they strongly agreed with the statement. Here again was a significant change.

Initially students were in mild agreement on the reading methods course requirement for certification. At the end of the course they were in significantly stronger agreement.

Students did not believe that English teachers were the only ones who should assume the responsibility for teaching reading and by the

TABLE IV

COMBINED MEANS OF THREE SECONDARY READING METHODS CLASSES USING THE VAUGHAN SCALE AS PRETEST - POST TEST ASSESSMENT OF CHANGES IN STUDENTS' PERCEPTION OF READING SKILLS NEEDED TO BE TAUGHT

STATEMENT (Adapted from the Vaughan Scale)[1]	MEANS Pre N=90	MEANS Post N=81	t value	Significance of Difference
1. A content area teacher is obliged to help students improve their reading ability.	7.69	8.96	5.30	.000**
2. Technical vocabulary should be introduced to students in content classes before they meet those terms in a reading passage.	7.47	9.57	8.46	.000**
3. The primary responsibility of a content teacher should be to impart subject matter knowledge.	6.76	7.26	1.32	.190
4. Few students can learn all they need to know about how to read in six years of schooling.	5.82	7.12	2.54	.012*
5. The sole responsibility for teaching students how to study should lie with reading teachers.	2.32	1.46	2.42	.016*
6. Knowing how to teach reading in content areas should be required for secondary teaching certification.	7.00	8.53	5.10	.000**
7. Only English teachers should be responsible for teaching reading in secondary schools.	2.54	1.35	3.26	.001**
8. A teacher who wants to improve students' interest in reading should show them that he or she likes to read.	7.30	8.28	2.72	.007**
9. Content teachers should teach content and leave reading instruction to reading teachers.	2.80	1.25	4.49	.000**
10. A content area teacher should be responsible for helping students think on an interpretive level as well as a literal level when they read.	8.24	9.05	3.59	.000**
11. Content area teachers should feel a greater responsibility to the content they teach than to any reading instruction they may be able to provide.	5.58	5.23	0.79	.43
12. Content area teachers should help students learn to set purposes for reading.	7.28	8.86	6.37	.000**
13. Every content area teacher should teach students how to read material in his or her content specialty.	7.28	9.39	8.27	.000**
14. Reading instruction in secondary schools is a waste of time.	0.64	0.48	0.90	.370
15. Content area teachers should be familiar with theoretical concepts of the reading process.	7.87	8.44	1.93	.055

* significant @ p .05
** significant @ p .01

[1]Joseph L. Vaughan, "A Scale to Measure Attitude Toward Teaching Reading in Content Classrooms." Journal of Reading, 20:605-609, April, 1977.

time the course concluded, students were more convinced than ever. They strongly disagreed with this point and again the change was significant.

At the start of the course students agreed that teachers should show that they like to read. By the end of the course they were in stronger agreement and significantly so.

Content teachers should not leave reading instruction to the reading teachers. Here again there was a significant change in student opinion and indicates awareness of their responsibility to provide reading instruction.

Teaching students to think at the higher cognitive levels is another opinion that changed significantly. Subject matter teachers should do this and our students were more than ever convinced of the need.

Setting purposes for reading is another point of significant change and so was the statement that content teachers need to show students how to read in their subject.

A final point to note is that of secondary school reading instruction being a waste of time. In the pretest students were in strong disagreement (0.64) and in the post test they were in even stronger (0.48) disagreement. The importance of this point in not in the significance of opinion change (there was none) but in the fact that students most strongly disagreed with the statement at the onset of the course. Their opinions leave no doubt of their strong support for reading instruction at the high school level.

Responses to statements 4 and 5 were significant at the .05 level. That is to say, members of the class believed that (4) it takes more than six years of schooling for students to know all they need to know

all they need to know about reading and (5) reading teachers are not the only ones who have the responsibility for teaching students how to study.

For survey statements 3 and 11 there was no significant change in opinion. Although class members believed that their primary responsibility is to impart subject matter (3) their conviction in this regard was far from strong. The same is true for their responsibility to teaching content over the responsibility to teach reading skills to their students. Loyalty to one's subject and field of specialization may very well be the major factor here.

Table V contains responses for preservice teachers in Group D. It will be noted that these individuals changed significantly in their opinions about the obligation of the content area teacher to help students improve their reading ability. Moreover, they changed their views about leaving reading instruction to reading teachers alone. They also believed that they should help their students read at the interpretive level and set purposes for reading.

Table VI contains responses for Group E. In this class, the changes in opinions were significant in several aspects. They believed that they are obliged to help students improve their reading ability, that technical vocabulary should be pretaught, that English teachers are not the only ones who should teach reading skills, that they should help students think at an interpretive level, help students set purposes for reading, and help students learn how to read material in the special field.

TABLE V

PRE TEST/POST TEST MEANS, t VALUES, AND SIGNIFICANCE OF DIFFERENCES BETWEEN MEANS FOR GROUP D PRESERVICE TEACHERS' OPINIONS ABOUT THE NEED FOR TEACHING READING SKILLS TO HIGH SCHOOL STUDENTS AS MEASURED BY THE VAUGHAN SCALE

STATEMENT (Adapted from the Vaughan Scale)[1]	MEANS pre N= 29	MEANS post N= 30	t value	Significance of Difference
1. A content area teacher is obliged to help students improve their reading ability.	7.52	8.70	3.22	.002**
2. Technical vocabulary should be introduced to students in content classes before they meet those terms in a reading passage.	7.28	8.53	2.27	.027*
3. The primary responsibility of a content teacher should be to impart subject matter knowledge.	7.21	7.63	0.78	.440
4. Few students can learn all they need to know about how to read in six years of schooling.	5.72	7.77	1.43	.160
5. The sole responsibility for teaching students how to study should lie with reading teachers.	3.24	1.90	1.95	.056
6. Knowing how to teach reading in content areas should be required for secondary teaching certification.	6.58	7.13	0.90	.373
7. Only English teachers should be responsible for teaching reading in secondary schools.	3.69	1.93	2.33	.024*
8. A teacher who wants to improve students' interest in reading should show them that he or she likes to read.	7.07	7.93	1.47	.147
9. Content teachers should teach content and leave reading instruction to reading teachers.	3.97	1.93	2.75	.008**
10. A content area teacher should be responsible for helping students think on an interpretive level as well as a literal level when they read.	7.62	8.87	3.58	.001**
11. Content area teachers should feel a greater responsibility to the content they teach than to any reading instruction they may be able to provide.	5.59	5.73	0.25	.804
12. Content area teachers should help students learn to set purposes for reading.	6.90	8.47	4.05	.000**
13. Every content area teacher should teach students how to read material in his or her content specialty.	6.79	8.10	2.49	.016*
14. Reading instruction in secondary schools is a waste of time.	1.66	0.33	2.50	.018*
15. Content area teachers should be familiar with theoretical concepts of the reading process.	7.48	8.27	1.79	.079

* significant @ p .05
** significant @ p .01

[1]Joseph L. Vaughan, "A Scale to Measure Attitude Toward Teaching Reading in Content Classrooms." Journal of Reading, 20:605-609, April, 1977.

TABLE VI

PRE TEST/POST TEST MEANS, t VALUES, AND SIGNIFICANCE OF DIFFERENCES BETWEEN MEANS FOR GROUP E PRESERVICE TEACHERS' OPINIONS ABOUT THE NEED FOR TEACHING READING SKILLS TO HIGH SCHOOL STUDENTS AS MEASURED BY THE VAUGHAN SCALE

STATEMENT (Adapted from the Vaughan Scale)[1]	MEANS pre N=35	MEANS post N=33	t value	Significance of Difference
1. A content area teacher is obliged to help students improve their reading ability.	7.51	9.00	3.77	.000**
2. Technical vocabulary should be introduced to students in content classes before they meet those terms in a reading passage.	7.49	9.09	3.12	.003**
3. The primary responsibility of a content teacher should be to impart subject matter knowledge.	6.86	7.09	0.37	.716
4. Few students can learn all they need to know about how to read in six years of schooling.	5.89	8.00	2.53	.014*
5. The sole responsibility for teaching students how to study should lie with reading teachers.	2.89	1.82	1.68	.099
6. Knowing how to teach reading in content areas should be required for secondary teaching certification.	7.14	8.03	1.59	.118
7. Only English teachers should be responsible for teaching reading in secondary schools.	2.74	1.15	2.84	.006**
8. A teacher who wants to improve students' interest in reading should show them that he or she likes to read.	7.71	8.64	2.45	.017*
9. Content teachers should teach content and leave reading instruction to reading teachers.	3.26	1.79	2.23	.029*
10. A content area teacher should be responsible for helping students think on an interpretive level as well as a literal level when they read.	8.31	9.52	3.94	.000**
11. Content area teachers should feel a greater responsibility to the content they teach than to any reading instruction they may be able to provide.	5.74	5.61	0.20	.841
12. Content area teachers should help students learn to set purposes for reading.	7.51	8.73	3.03	.004**
13. Every content area teacher should teach students how to read material in his or her content specialty.	7.34	9.00	3.81	.000**
14. Reading instruction in secondary schools is a waste of time.	0.57	0.64	0.20	.840
15. Content area teachers should be familiar with theoretical concepts of the reading process.	7.91	8.55	1.59	.116

* significant @ p .05
** significant @ p .01

[1]Joseph L. Vaughan, "A Scale to Measure Attitude Toward Teaching Reading in Content Classrooms." Journal of Reading, 20:605-609, April, 1977.

TABLE VII

PRE TEST/POST TEST MEANS, t VALUES, AND SIGNIFICANCE OF DIFFERENCES BETWEEN MEANS FOR GROUP F PRESERVICE TEACHERS' OPINIONS ABOUT THE NEED FOR TEACHING READING SKILLS TO HIGH SCHOOL STUDENTS AS MEASURED BY THE VAUGHAN SCALE

STATEMENT (Adapted from the Vaughan Scale)[1]	MEANS pre N= 28	MEANS post N= 27	t value	Significance of Difference
1. A content area teacher is obliged to help students improve their reading ability.	7.43	8.89	3.00	.004**
2. Technical vocabulary should be introduced to students in content classes before they meet those terms in a reading passage.	7.18	9.22	4.72	.000**
3. The primary responsibility of a content teacher should be to impart subject matter knowledge.	7.36	8.04	1.31	.195
4. Few students can learn all they need to know about how to read in six years of schooling.	5.29	7.85	2.77	.008**
5. The sole responsibility for teaching students how to study should lie with reading teachers.	2.18	1.74	0.70	.486
6. Knowing how to teach reading in content areas should be required for secondary teaching certification.	7.39	7.48	0.14	.890
7. Only English teachers should be responsible for teaching reading in secondary schools.	1.89	2.04	0.22	.827
8. A teacher who wants to improve students' interest in reading should show them that he or she likes to read.	8.57	8.67	0.20	.840
9. Content teachers should teach content and leave reading instruction to reading teachers.	2.00	1.85	0.28	.782
10. A content area teacher should be responsible for helping students think on an interpretive level as well as a literal level when they read.	8.39	8.93	1.32	.194
11. Content area teachers should feel a greater responsibility to the content they teach than to any reading instruction they may be able to provide.	6.64	5.85	1.15	.258
12. Content area teachers should help students learn to set purposes for reading.	7.79	8.63	2.11	.040*
13. Every content area teacher should teach students how to read material in his or her content specialty.	7.96	8.93	2.32	.025*
14. Reading instruction in secondary schools is a waste of time.	0.82	1.04	0.41	.681
15. Content area teachers should be familiar with theoretical concepts of the reading process.	8.07	[illegible]	0.15	.884

* significant @ p .05
** significant @ p .01

[1]Joseph L. Vaughan, "A Scale to Measure Attitude Toward Teaching Reading in Content Classrooms." Journal of Reading, 20:605-6[illegible] April, 1977.

TABLE VIII

PRE TEST/POST TEST MEANS, t VALUES, AND SIGNIFICANCE OF DIFFERENCES BETWEEN MEANS FOR THREE GROUPS (D-E-F) COMBINED PRESERVICE TEACHERS' OPINIONS ABOUT THE NEED FOR TEACHING READING SKILLS TO HIGH SCHOOL STUDENTS AS MEASURED BY THE VAUGHAN SCALE

STATEMENT (Adapted from the Vaughan Scale)[1]	MEANS pre N= 92	MEANS post N=90	t value	Significance of Difference
1. A content area teacher is obliged to help students improve their reading ability.	7.49	8.87	5.80	.000**
2. Technical vocabulary should be introduced to students in content classes before they meet those terms in a reading passage.	7.33	8.94	5.53	.000**
3. The primary responsibility of a content teacher should be to impart subject matter knowledge.	7.12	7.56	1.30	.195
4. Few students can learn all they need to know about how to read in six years of schooling.	5.97	7.88	3.97	.000**
5. The sole responsibility for teaching students how to study should lie with reading teachers.	2.78	1.82	2.55	.012*
6. Knowing how to teach reading in content areas should be required for secondary teaching certification.	7.04	7.57	1.51	.133
7. Only English teachers should be responsible for teaching reading in secondary schools.	2.78	1.68	2.88	.004**
8. A teacher who wants to improve students' interest in reading should show them that he or she likes to read.	7.77	8.41	2.27	.024*
9. Content teachers should teach content and leave reading instruction to reading teachers.	3.10	1.86	3.24	.001**
10. A content area teacher should be responsible for helping students think on an interpretive level as well as a literal level when they read.	8.12	9.12	4.89	.000**
11. Content area teachers should feel a greater responsibility to the content they teach than to any reading instruction they may be able to provide.	5.97	5.72	0.65	.518
12. Content area teachers should help students learn to set purposes for reading.	7.40	8.61	5.26	.000**
13. Every content area teacher should teach students how to read material in his or her content specialty.	7.36	8.68	4.85	.000**
14. Reading instruction in secondary schools is a waste of time.	0.99	0.66	1.27	.204
15. Content area teachers should be familiar with theoretical concepts of the reading process.	7.83	8.29	1.84	.068

* significant @ p .05
** significant @ p .01

[1]Joseph L. Vaughan, "A Scale to Measure Attitude Toward Teaching Reading in Content Classrooms." Journal of Reading, 20:605-609, April, 1977.

Table VII contains responses for Group F. Members of this group had significant opinion changes in only three areas. They believed that they should help their students improve in reading, that technical vocabulary should be pretaught, and that it takes more than six years of school to teach students the reading skills they need.

Table VIII contains the combined responses of students in groups D, E, and F. An examination of this table reveals significant changes in a number of crucial reading concepts. On the whole, members of the three classes believed that they must help their students read better, that technical vocabulary should be pretaught, that few students can learn all there is to know about reading in the elementary school, that English teachers are not the only ones who must teach reading, that the content teacher cannot leave reading instruction to the reading teacher only, that students have to be taught to think on the interpretive as well as literal level, that content teachers must show students how to set purposes for reading, and that content teachers must teach their students how to read material in their special fields.

Table IX on the following page contains a summary of the findings for all groups combined. That is, the responses for preservice teachers in all six undergraduate secondary reading methods courses are treated. From this last table it is readily apparent that participation in the class produced significant changes in students' opinions. As subject matter specialists:

they feel obliged to their students to improve their reading ability;

they should preteach the vocabulary to be encountered in assignments;

they realize that it takes more than six years of schooling to master reading;

they believe they must teach their students how to study;

they think teachers should be required to take a reading course;

they feel the English teacher is not the only one who should teach reading;

they should show their students they themselves enjoy reading;

they should teach their students reading skills;

they should help their students read at an interpretive level;

they should help their students set purposes for reading;

they should teach the reading skills needed in their special fields;

they should know the theoretical processes of reading.

Table IX also reveals no significant change in opinions regarding their primary responsibility as content specialists. As nearly as can be determined, loyalty to their special field is paramount, but (perhaps) ambivalent. That is to say, respondents believe that their job is to teach their subject and this takes precedent over reading but their opinions were not too strong.

Statement 14 (Reading instruction in secondary schools is a waste of time) elicited very strong negative reaction at the start and at the end of the course. These participants were of the firm opinion that such instruction is not a waste of time and remained convinced at the end of the course.

A Final Statement. The purpose of the present study was to discover the effect of the undergraduate reading methods course on secondary

TABLE IX

PRE TEST/POST TEST MEANS, t VALUES, AND SIGNIFICANCE OF DIFFERENCES BETWEEN MEANS FOR ALL GROUPS (A-B-C-D-E-F) COMBINED PRESERVICE TEACHERS' OPINIONS ABOUT THE NEED FOR TEACHING READING SKILLS TO HIGH SCHOOL STUDENTS AS MEASURED BY THE VAUGHAN SCALE

STATEMENT (Adapted from the Vaughan Scale)[1]	MEANS pre N=182	MEANS post N=171	t value	Significance of Difference
1. A content area teacher is obliged to help students improve their reading ability.	7.59	8.91	7.87	.000**
2. Technical vocabulary should be introduced to students in content classes before they meet those terms in a reading passage.	7.40	9.24	9.46	.000**
3. The primary responsibility of a content teacher should be to impart subject matter knowledge.	6.94	7.42	1.88	.060
4. Few students can learn all they need to know about how to read in six years of schooling.	5.90	7.52	4.63	.000**
5. The sole responsibility for teaching students how to study should lie with reading teachers.	2.56	1.65	3.48	.001**
6. Knowing how to teach reading in content areas should be required for secondary teaching certification.	7.02	8.02	4.28	.000**
7. Only English teachers should be responsible for teaching reading in secondary schools.	2.67	1.52	4.31	.000**
8. A teacher who wants to improve students' interest in reading should show them that he or she likes to read.	7.54	8.35	3.56	.000**
9. Content teachers should teach content and leave reading instruction to reading teachers.	2.95	1.57	5.32	.000**
10. A content area teacher should be responsible for helping students think on an interpretive level as well as a literal level when they read.	8.18	9.09	6.00	.000**
11. Content area teachers should feel a greater responsibility to the content they teach than to any reading instruction they may be able to provide.	5.78	5.49	0.99	.323
12. Content area teachers should help students learn to set purposes for reading.	7.34	8.73	8.22	.000**
13. Every content area teacher should teach students how to read material in his or her content specialty.	7.32	9.02	8.97	.000**
14. Reading instruction in secondary schools is a waste of time.	0.82	0.57	1.53	.127
15. Content area teachers should be familiar with theoretical concepts of the reading process.	7.85	8.36	2.67	.008**

* significant @ p .05
** significant @ p .01

[1]Joseph L. Vaughan, "A Scale to Measure Attitude Toward Teaching Reading in Content Classrooms." Journal of Reading, 20:605-609, April, 1977.

level preservice teachers. Would their opinions change toward reading? Would this specific course succeed in influencing student opinion about reading so that teaching reading skills along with the special subject would be positive?

The results of the study appear to be significant at the .01 level as noted. Indeed, participants experienced important changes in their thinking, enough so to warrant continuing the course without modification.

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